

Physics

Prof. Michel Pleimling (VT Physics)

Colloquium

Aging processes far from equilibrium

Aging and dynamical scaling are generic features in systems far from equilibrium that evolve with slow dynamics. Well known examples can be found in structural glasses, spin glasses, magnetic systems, and colloids. Interestingly, even though physical aging has been observed (and exploited) since prehistoric times, its theoretical understanding is still far from complete. In the first part of the talk I shall discuss some typical experiments and highlight the rich phenomenology of aging as well as its universal features. In the second part of the talk I shall focus on recent theoretical studies of different model systems, as for example disordered ferromagnets and reaction-diffusion systems.

These studies reveal that a robust and rather universal theoretical framework can be developed in order to describe aging phenomena that take place in a large variety of systems. I shall close the talk with a discussion of open questions and an outlook on some future developments.

Friday, Sept. 11

2:30 P.M.

210 Robeson